White Papers Submitted in Response to December 2004 APIO Request for Information Regarding the ISS Strategic Roadmap

1. ATK Thikol Propulsion, The Boeing Company-NASA Systems, Lockheed Martin Space Systems Company-Michoud Operations, United Space Alliance – Shuttle Evolution Concepts for Completion of the International Space Station and Focusing its Use On Supporting Space Exploration Goals
2. Gary P. Barnhard, Barnhard Associate, LLC - Bringing the on-orbit reuse of the Shuttle External Tank into the box in terms of technical, cost, and schedule risk. How we can reduce the cost, schedule, and technical risk to a level that could make the Shuttle External tank a valuable staging, storage, and/or operational platform?
3. Gary P. Barnhard, Barnhard Associate, LLC – Modularize/adapt the Hubble Rescue Mission proposed spacecraft to more general use.
4. Gary P. Barnhard, Barnhard Associate, LLC – Applying heuristics derived from and developed using the International Space Station to build the symbiotic relationship between astronauts, autonomous systems, and robotics.
5. Boeing NASA Systems - Completing International Space Station (ISS) is critical to accomplish the Vision for Space Exploration to the Moon, Mars and places beyond:
   - Unique and revolutionary ISS research will facilitate future space exploration while reducing the risks and costs associated with this bold endeavor.
   - The ISS is the only permanently manned orbital facility in existence, and is unique to understanding scientific, technological, and operational challenges of human space flight.
   - For the ISS to fulfill this essential role it must be completely assembled, fully crewed, adequately supplied, and effectively maintained.
6. Joseph Carroll – Expediting Exploration System Development via Priority Small-Payload Return from ISS.
7. Constellational Services International, Inc. – Commercial Space Transportation Services: Excerpts from the Procurement and Policy Section.
8. Constellational Services International, Inc – Primary Focus Area: Complete assembly of the International Space Station and focus utilization.
9. William H. Davis-US Army ARDEC, Todd Borghesani-NASA-Sponsored Classroom of the Future – Game Technology Applied to Education in NASA Strategic Roadmap Focus Areas. The partnership of NASA's Classroom of the Future and America's Army Game Project suggests and proposes the use of 3D game technology as a means to link many of NASA's Strategic Roadmap areas to Education and Outreach.

10. NASA JSC, Crew and Thermal Systems Division, Thermal System & Engineering Support Branch/EC2 – Controlled Temperature Stowage Systems for NASA Spaceflight.
11. Jeff Kavanaugh – Proposal for Revised ISS Construction Technique. The proposal is to use expendable launch vehicles to loft components to the ISS while the Shuttle is at the Station.
12. Steve King, Rick Hieb Lockheed Martin Coperation – Strategic Roadmap White Paper: International Space Station-A Testbed for Exploration.
13. Mark Lee, Orbital Technologies Corporation – On-orbit Variable Gravity Test-bed.
14. Christopher A. Looper, Zane A. Ney, United Space Alliance, LLC – EVA and EVR Teaming Strategies for ISS Maintenance.
15. Janie H. Miernik-ERC, Inc., James E. Owens-Qualis, Brian A. Floyd-Allied Aerospace, Janet Strong-Morgan Research, Joseph Sanford-MSFC NASA – Reuse of International Space Station Modules as Lunar Habitat.
16. Zane A. Ney, Christopher A Looper, United Space Alliance, LLC – Maintenance Pipeline Theory for Modular Subsystem and Component Replacement Units.
17. Don Sauvageau, ATK Thiokol Inc. – Space Transportation System-Evolved Launcher for ISS Resupply. Support of the International Space Station after completing assembly will require a highly capable, reliable, and affordable launch vehicle.
18. The Shriever Institute – The Institute views human participation in the exploration of the universe as the key element in the mission architecture. That dominant role of the explorers requires continued use and completion of the International Space Station.
19. Thomas C. Taylor, GLOBAL OUTPOST, Inc. – Create an SEI Propellant Source. Develop an SEI Proplellant Source Strategic Focus as we finish the Space Station.
20. Universities Space Research Association – USRA believes in the potential of the International Space Station to contribute to the development and implementation of capabilities that will be required to carry out the Exploration Vision. USRA is uniquely positioned to contribute to the framework of an organization responsible for the utilization of the Space Station.
21. Dr. Jesco von Puttkamer – Tree of Relevance and a Generic Deep-Space Human Expedition Sim in Low Earth Orbit.